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Safety & Environmental
Health

SIGMA-ALDRICH

Material Safety Data Sheet

Version 3.2
Revision Date 01/11/2008
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Benzaldehyde
Product Number : 12015
Brand : Sigma-Aldrich
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Artificial essential oil of almond
Formula : C7H6O
Molecular Weight : 106.12 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Benzaldehyde			
100-52-7	202-860-4	605-012-00-5	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Combustible Liquid
Target Organ Effect
Harmful by ingestion.
Harmful by skin absorption.
Skin and respiratory sensitizer
Irritant

Target Organs

Central nervous system, Liver, Kidney

HMIS Classification

Health Hazard: 3
Chronic Health Hazard: *
Flammability: 2
Physical hazards: 1

NFPA Rating

Health Hazard: 3

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Delivery 0832671230-000010 Purchase Order 36925C

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Fire : 2
Reactivity Hazard: 1

Potential Health Effects

Inhalation : May be harmful if inhaled. May cause respiratory tract irritation.
Skin : Harmful if absorbed through skin. May cause skin irritation.
Eyes : May cause eye irritation.
Ingestion : Harmful if swallowed.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : 64 °C (147 °F) - closed cup

Ignition temperature : 190 °C (374 °F)

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Under fire conditions, material may decompose to form flammable and/or explosive mixtures in air.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Store under nitrogen.

Air, light, and moisture sensitive.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	colourless

Safety data

pH	5.9 at 20 °C (68 °F)
Melting point	-26 °C (-15 °F)
Boiling point	177 - 179 °C (351 - 354 °F)
Flash point	64 °C (147 °F) - closed cup
Ignition temperature	190 °C (374 °F)
Lower explosion limit	1.4 %(V)
Upper explosion limit	8.5 %(V)
Vapour pressure	5 hPa (4 mmHg) at 45 °C (113 °F)
Density	1.050 g/cm ³
Water solubility	slightly soluble
Partition coefficient: n-octanol/water	log Pow: 1.5
Relative vapour density	3.66 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Air Exposure to moisture. Light. Heat.

Materials to avoid

Strong oxidizing agents, Strong reducing agents, Strong bases, Alkali metals, Aluminium, Iron, phenols, Oxygen

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 1,300 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Coma.

LD50 Dermal - rabbit - 1,250 mg/kg

Irritation and corrosion

Skin - rabbit - Skin irritation - 24 h

Eyes - rabbit - Mild eye irritation

Sensitisation

May cause allergic respiratory and skin reactions

Chronic exposure

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Laboratory experiments have shown mutagenic effects.

Signs and Symptoms of Exposure

Central nervous system depression, Prolonged or repeated exposure to skin causes defatting and dermatitis.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	Harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	Harmful if swallowed.
Target Organs	Central nervous system, Liver, Kidney.

12. ECOLOGICAL INFORMATION

Elimination Information (persistence and degradability)

Biodegradability	Biotic/Aerobic
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Ecotoxicity effects

Toxicity to fish	LC50 - <i>Lepomis macrochirus</i> - 1.07 mg/l - 96 h
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mortality LOEC - Pimephales promelas (fathead minnow) - 0.45 mg/l - 7 d
mortality NOEC - Pimephales promelas (fathead minnow) - 0.22 mg/l - 7 d
LC50 - Leuciscus idus (Golden orfe) - 62 mg/l - 48 h
EC50 - Daphnia magna (Water flea) - 50 mg/l - 24 h

Toxicity to daphnia
and other aquatic
invertebrates.

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 1990 Class: 9 Packing group: III
Proper shipping name: Benzaldehyde

IMDG

UN-Number: 1990 Class: 9 Packing group: III EMS-No: F-A, S-A
Proper shipping name: BENZALDEHYDE
Marine pollutant: No

IATA

UN-Number: 1990 Class: 9 Packing group: III
Proper shipping name: Benzaldehyde

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Target Organ Effect, Harmful by ingestion., Harmful by skin absorption., Skin and respiratory sensitizer, Irritant

TSCA Status

On TSCA Inventory

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Benzaldehyde

CAS-No.	Revision Date
100-52-7	1989-12-01

Pennsylvania Right To Know Components

Benzaldehyde

CAS-No.	Revision Date
100-52-7	1989-12-01

New Jersey Right To Know Components

Benzaldehyde

CAS-No.	Revision Date
100-52-7	1989-12-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further Information

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